

## **RESEARCH PROBLEM STATEMENT #PA-505**

### **I – Problem Title**

Determination of Pavement Surfaces Skid Resistance Values

### **II – Research Problem Statement**

There is a direct relation between the pavement surface friction and roadway weather safety. Currently, there are no guidelines, reference or data for what friction resistance such as coefficient of friction or SN40 values can be expected for certain pavement types for Caltrans' use.

### **III – Objective**

Obtain list of various types of pavement surfaces used by Caltrans and test these various surfaces for their skid resistance and macrotexture. Determine and recommend what the expected SN40 value and coefficient of friction may be for each type of pavement surface. Correlate the two types of skid tests, ASTM E274 towed trailer skid test and CTM 324 portable skid test, currently used by Caltrans. Typically for the ASTM E274 towed trailer skid test Caltrans uses a SN40 value of 30 or above as acceptable. The CTM 324 portable skid test, a coefficient of friction value of 30 or above for pavements and a value of 35 or above for bridge decks is considered acceptable.

### **IV – Background**

Wet weather pavement vehicle collisions prompt skid test requests from District Traffic Safety to the Sacramento ES-METS-OSSDR Pavement Field Testing Branch (PFTB) at the Caltrans laboratory, who perform skid testing inventory statewide and special skid test requests. The skid values resulting from these tests are recorded and intended for use in evaluating the skid resistance of pavement relative to that of other pavements or for evaluating changes in the skid resistance of a pavement with passage of time (inventory). As a general rule, Caltrans has determined that SN40 skid numbers of 30 or above have sufficient skid resistance even while driving in severe weather conditions. Caltrans Legal, Traffic Safety and Maintenance use these tests statewide.

### **V – Statement of Urgency and Benefits**

This research is urgent. Skid testing plays an important role in our wet traffic collision investigations. The accuracy of these tests is of the utmost importance benefiting the department by improving the testing methods used in keeping our roads safe and meeting our number one goal, Safety.

### **VI –Related Research**

To be Determined

### **VII – Deployment Potential**

The methodology developed to determine skid values for pavement types will be incorporated in the skid testing process.